

Drinking Water Exposures and Perceptions among 1998-1999 FoodNet Survey Respondents

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Background: In 1996, Congress mandated that EPA and CDC produce a report to define a national estimate of waterborne illness attributable to municipal drinking water. As part of the report process, it was determined that there was a need to better characterize the drinking water consumption, behaviors, and exposure outcomes of the U.S. population.

Methods: The Emerging Infections Program's Foodborne Diseases Active Surveillance Network (FoodNet) conducts population surveys that collect demographic, medical and food consumption information. EPA and CDC integrated water consumption and exposure questions into FoodNet surveys administered via random digit dialing to households within 7 FoodNet sites from February 1998 through February 1999.

Results: Among 12,755 respondents, 63.8% identified municipal water, 17.8% bottled water, and 15.0% private well water as their primary source of drinking water. Residents of rural or farm areas were more likely to drink private well water than municipal or bottled water ($p=0.001$).

Reasons for drinking bottled water included improved taste or odor (49.1%), avoiding chemicals (28.0%), and avoiding germs (16.5%). Bottled-water drinkers with children were more likely to express concern about germs in water ($p=0.02$). Thirty percent of tap water drinkers treated their water. The most cited treatment method, filtration (76.0%), was associated with higher income and higher education ($p<0.001$). Those with annual incomes less than \$15,000 who treated their water favored pitcher filters or boiling their water. The reasons for choosing to treat water did not vary by income or education. Respondents (65.0%) did not know if their filter removed *Cryptosporidium*.

Respondents did not consistently use the primary source of drinking water to prepare beverages. One-third of those who drank bottled or treated tap water reported using untreated tap water to prepare cold beverages. Diarrheal episodes (3 or more stools lasting 1 day or more or impairing daily activity, except episodes linked with chronic illness) did not show any significant associations with water exposures by univariate analysis.

Conclusion: The results from the 1998-1999 population survey indicate socioeconomic factors and geographic location may influence the type of drinking water source and selection of treatment. Responses generally indicate that the public chooses water treatment for palatability, rather than to prevent harm from possible chemical or microbial contaminants. Continued data collection will indicate whether these patterns and beliefs remain temporally and geographically consistent as more FoodNet sites are included and will assist in the development of a national estimate of waterborne illness.

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